

m/023/003

**BRUSHWELLMAN**  
ENGINEERED MATERIALS

Brush Wellman Inc.  
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DIVISION OF  
OIL GAS & MINING

August 31, 1992

Holland Shepard  
Senior Reclamation Specialist  
State of Utah Department of Natural Resources  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

Re: Fall 1992 Reclamation Work (Topaz Mine, M/023/003, Juab County Utah)

Dear Holland:

We are planning to start fall, 1992 topsoil spreading and reseeding reclamation. The work will be concentrated on all rhyolite covered dumps and pit backfills in the Roadside I and II and some of the Blue Chalk South areas.

A year ago we established a test area on the Section 16 waste dump area to determine soil depth success. Four (4) plots were established; rhyolite, no topsoil; rhyolite with 3 inches topsoil; rhyolite with 6 inches topsoil; and rhyolite with 18 inches topsoil. Our best results after one year was the test plot area rhyolite with 3 inches topsoil. The test plot area with no topsoil, and 6 inches topsoil were much better than the plot area with 18 inches topsoil.

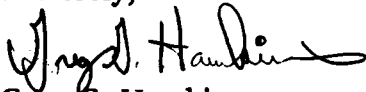
Our bonded time frame schedule is to complete the Roadside I and II reclamation this year. Therefore, I recommend we proceed with the 3 inch topsoil placement over the rhyolite dumps and backfilled areas in the Roadside and Blue Chalk South areas as mentioned above. Topsoil thickness (3") is a variance from our reclamation plan but, as we have previously discussed with you and other representatives from DOGM and the BLM, we feel we have now demonstrated that a thin veneer (3 inches) of topsoil will cover much more area and result in better reseeding success. This will be more esthetic to the human eye rather than spotty areas of thick soil and large areas of no soil.

The surface will be ripped and left "very rough". The rough surface should help retain and collect rainfall and blowing seeds better than a smooth surface. We will use the standard seed mix for rhyolite and covered dumps and pits as specified in Table 4, 6-3 of the M.R.P. In addition, shadscale, spread at 2 lbs/acre will be included due to its recent success in our test plots.

If time permits before the snow falls, we plan to "reseed" the Rainbow dumps and part of the Blue Chalk North dumps where the 1988 seeding had poor success because of inadequate rainfall. This will be the last time we will reseed these two areas, a variance will be requested as you have previously recommended.

Please advise us as soon as possible if you agree with this proposal so we can start fall reclamation in time to complete all the work outlined. If you have any questions or concerns, please feel free to contact me. We plan to start spreading topsoil on September 8, 1992.

Sincerely,



Greg G. Hawkins  
Mine Manager

cc: Cristina Reed, BLM  
Don McMillan, Brush Wellman

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## ADDENDUM 1

### 1991 RECLAMATION WORK COMPLETED

- Roadside waste dumps west side rounded contour to natural land form (not required).
- Section 16 waste dumps east side rounded contoured and topsoiled (not required).

- Rock Safety Berms:

<u>Identification</u>	<u>Ft.</u>
Section 16 #1 (west)	1,700 (required)
Fluro Pits - Intermediate (west)	1,300 (not required)

- Pits Backfilled:

<u>Identification</u>	<u>% Backfilled</u>
*Roadside #1	100%
*Roadside #2	90%
*Blue Chalk #1	90%
Rainbow	5%

\*Ready for surface reclamation

Roadside's - 26 acres (backfill) area; 73 Acres total  
 Blue Chalk - 18 acres (backfill) area; 55 Acres total

- Available Topsoil Stockpiled

<u>Identification</u>	<u>Thousand Cubic Yards</u>	<u>Acre/Ft.</u>
Roadside/Fluro	34.9	21.6
Section 16	76.4	47.3
<u>Less Replaced</u>	<u>(3.9)</u>	<u>(2.4)</u>
<b>TOTAL END OF YEAR</b>	<b>107.4</b>	<b>66.5</b>

- Good spring moisture aided seed germination on 1990 reclaimed road areas. (Sigma Emma and Taurus)
- 1991 reclaimed areas (Cost = \$23K)
  - Reseed topsoil stockpiles, Roadside/Fluro and Section 16 - Natural/Hand seeded.
  - Round east dump edge of Section - covered with 3" topsoil
  - Established revegetation test plots (see "Addendum 3" attached)
- 1992 reclamation planned:
  - Spring - rerip and reseed all previous Rhyolite dumps pending success or variance.
  - Fall - Rip and seed Roadside #1 and 2 dump top (Topsoil to be placed 3" thickness.)
    - Partial bond release of past reclaimed dumps, roads and safety rock berms completed since mining and reclaiming plan was approved.